

Invoice Processing Using RPA

NandhaKumar.A¹, Rakshana.B², SuryaKala.M³ & Mr.R.SureshKumar⁴

UG Students^{1,2,3} Professor⁴

Department of CSE, KGiSL Institute of Technology, Coimbatore, India

Abstract

The advent of Robotic Process Automation (RPA) has the potential to disrupt the traditional invoice model. With its capability to automate rules-based tasks that are repetitive and manual, RPA is expected to repurpose the role of the invoice by replacing perfunctory tasks and emphasizing higher order thinking skills that will eventually lead to enhanced invoice quality. This editorial envisages the future of the invoice by introducing the concept of RPA and describing its usage of UiPath tools. Moreover, considerations for RPA - based on invoice processing performed with help of UiPath. Collect an invoice template in different format and read those mails and receiving the mail with the help of IMAP. Processing those unread mails by using required activities .Depends on those activities we automated the mail. The convert those PDF file to Excel sheet format. And send a mail notification to the required client.

Keywords- IMAP, RPA, UiPath, Invoice Processing, Excel Sheet

I. INTRODUCTION

Robotic process automation (RPA) is rapidly changing the accounting and finance operations, arguably faster than any other piece of modern technology. Just for starters, it can be used to reduce data transcribing tasks by 80% in accounts payable, financial close, tax accounting and more, Robotic accounting is an increasingly popular solution for the limitations of legacy and disparate system found in the finance and accounting operations, which have had a direct effect on the operational efficiency of back office operations and internal customers of shared services functions. Robotic accounting, or robotic process automation in accounting the invoice processing, is defined as the use of automation application, like UiPath and Blue Prism, to reduce the amount of human labour required to process accounting and finance transaction just think of accounting robots as a tool that can reduce the effort needed to move routine data between accounting different accounting system and outside applications, instead of just being confine to one. Accounting RPA is an often perceived as the human replacement, but accounting robotics is more of a finance and accounting the operations and reduce data movement of the software applications like UiPath, Blue prism and then automated anywhere have simplified the work and the skills of the required accounting workforce and robotics assistants by removing the need to understand the computer code to integrated the data movement in between the multiple data sources.

II. LITERATURE SUVEY

A systematic review of the literature consists on identifying, evaluating and interpreting all available information on a research topic or phenomenon of interest by using a reliable, audit and rigorous methodology. This systematic review consists of three phase :(1) planning the review ,(ii) conducting the review, and (iii) reporting the review. This phase consists of establishing the steps that will be performed during the review, for which research question and strategies of search are determined. This phase consists of two steps (i) establishing the research question and (ii) defining data sources and search strategy. The research question that has been stated defines the scope of the systematic review and it is as follows:” what is the state of the art regarding electronic invoicing and information systems or platforms that use notifications?” The following digital libraries have been selected for automatic search: IEEXplore, ACM Digital Library, Springer Link, Science Direct, and Google Scholar. For the manual search the best conferences and magazines related to the topic of electronic commerce have been chosen. Table I shows the conferences and selected journals where papers have been found that could not be retrieved by the automatic search and whose content is representative for the research. In order to perform the automatic search a string was defined based on keywords related to subject of the investigation. This string was chosen at investigators’ criteria, after a process of multiple attempts with different combinations of possible keywords.

III. PROPOSED SYSTEM

Invoice processing system is used to overcome the entire problem which they are facing currently, and making complete automation of billing system.

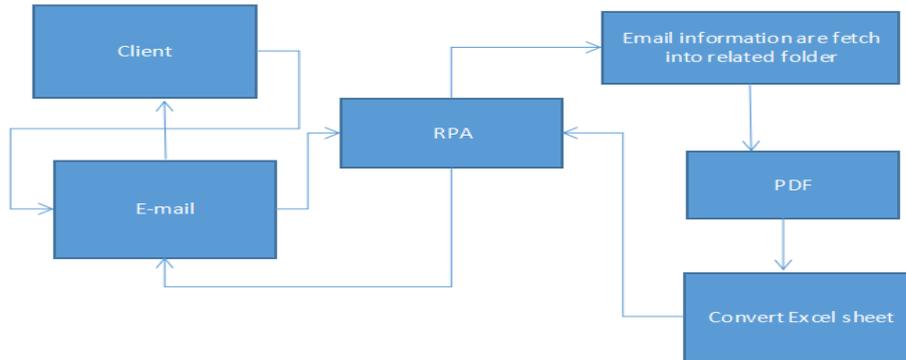


Fig1. Proposed System Work Flow

The client can be send the invoice through the email to the required organization , in that organization fetch the email information through RPA and then bot, can automated the required process that they generate the PDF format and convert to excel sheet and the bot sends the email notification to the client .

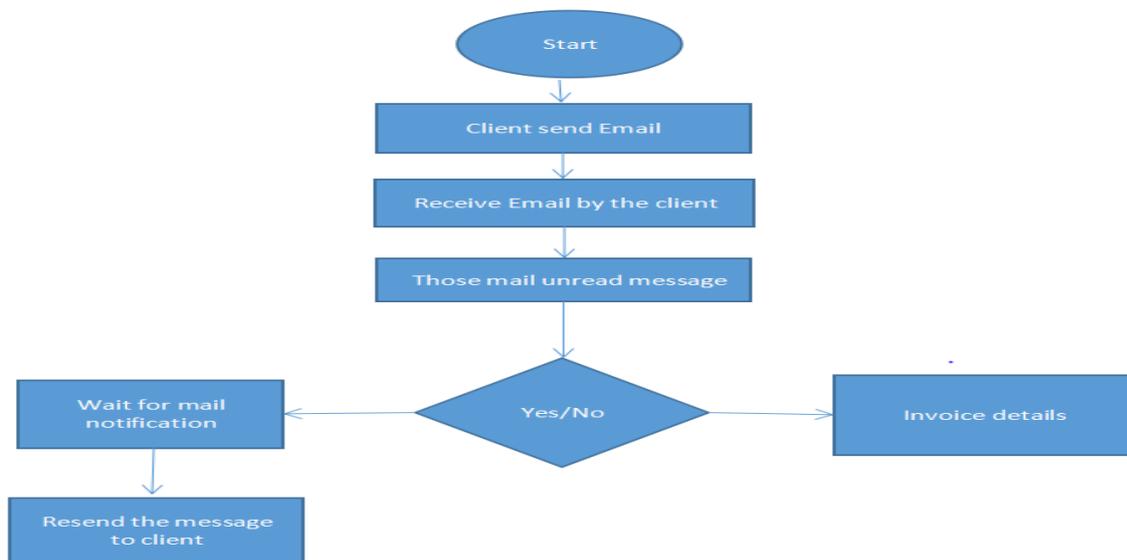


Fig.2 Flowchart of Proposed system

A flowchart is a type of diagram that represents an algorithm, work flow or process. The flowchart shows the steps as boxes of various kinds, and their order by connecting the boxes with arrows. This diagrammatic representation illustrates a solution model to a given problem. This process will check the invoice details and if the details are send by the client. Receive the payment details of invoice process should be done.Details will be send to the required client. If it not done resend the message to the client and wait for mail notification.

3.1. DATA FLOW DIAGRAM LEVEL 0



Fig.3. Data flow diagram level 0

This is the basic outline for the invoice process. All the invoice details are sent by the client those invoices are pre-defined format containing no hand written text. Each document spans across approximately 3 pages. It can be mobile captured images, scanned PDFs. Data retrieved from the excel sheet send the mail notification to required client.

3.2. DATA FLOW DIAGRAM LEVEL 1

The unread message are direct to the required folder and those file are PDF format that can be attach into Excel sheet and send to mail notification to required client.

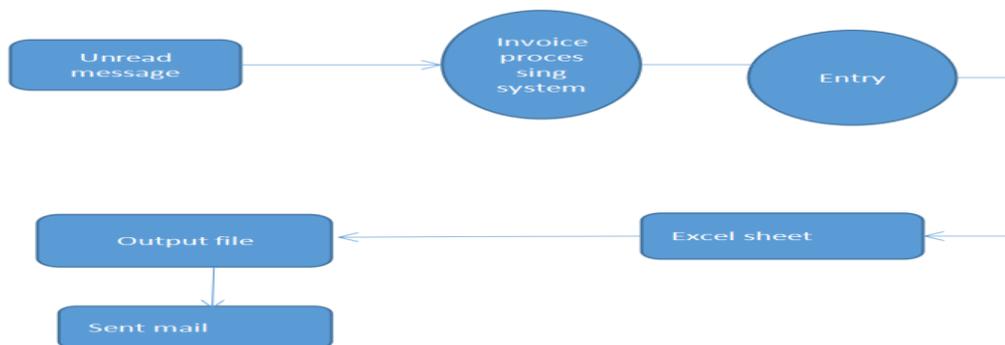


Fig.4. Data flow diagram level 1

IV. OUTPUT AND RESULTS

This section explains the output in the form of screenshots in different levels starting from, registration of users, shortlist the frequent users based on the location, notify the users with the available offers for that particular period.

4.1 UiPath Studio Registration form

Fig. 5. shows the starting page for UiPath studio. This facilitates the user to register their mail id. After registration, the process will be activated.

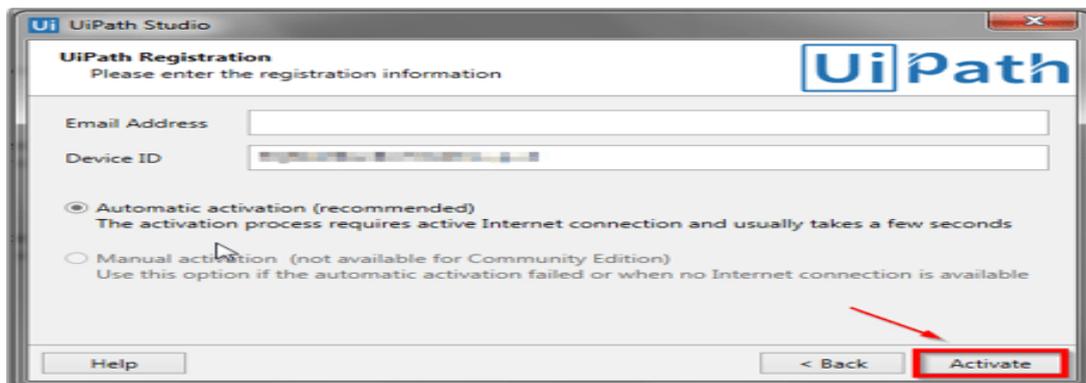
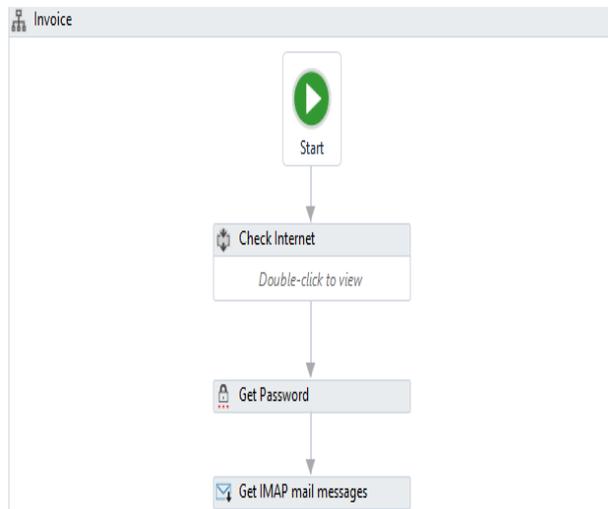


Fig. 5. Ui Path Registration form

4.2 UiPath Studio flow of the proposed work

This is the flowchart for the process. Email attachment to required invoice processing ,start the process and then check the internet status and get the password and receive the mail messages by using the IMAP mail message to receive the those invoice details.



UiPath.Mail.IMAP.Activities.GetIMAPMail...	
Common	
DisplayName	Get IMAP mail n
TimeoutMS	Specifies th ...
Host	
MailFolder	"INVOICE" ...
Port	993 ...
Server	"imap.gma ...
Logon	
Email	"suryakala! ...
Password	PSW12 ...
Misc	
Private	<input type="checkbox"/>
Options	
DeleteMessages	<input type="checkbox"/>
MarkAsRead	<input type="checkbox"/>
OnlyUnreadMessages	<input type="checkbox"/>
SecureConnection	Auto
Top	20 ...
Output	
MailMessages	Mail ...

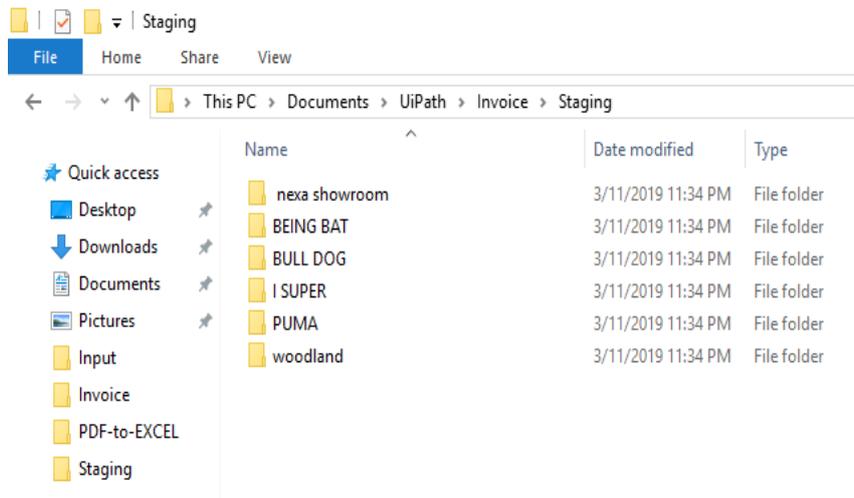
```

    ForEach mail in Mail
      Body
        Save Attachments
          mail
          "C:\Users\surya\Documents\UiPath\Invoice\Input ...
        Write Line
          Text attach.ToString
    
```

Fig. 6. Ui Path importing Email processing

4.3 UiPath Studio folder of the proposed work

The mail messages can be automatically convert into a specified folder.



EXCEL SHEET

Excel is easy to use, accessible, and highly popular. Nonetheless, it is not always user-friendly and can at times prove to be very time-consuming and hard to integrate with other applications. In this excel, the invoice details are shown as output.

	A	B	C	D	E	F
1	Invoice_Date	Subtotal	Total			
2	13/02/2019	4,378.00	₹ 6,304.32			
3	02/19/2019	1,506.10	\$1,536.22			
4	02/20/2019	555.60	\$566.71			
5	02/19/2019	1,050.50	\$1,071.51			
6	02/19/2019	2,751.00	\$2,806.02			
7						

Fig. 7. UiPath Output – Excel sheet

In the excel sheet, RPA process writes the data from a data table variable in a spreadsheet starting with the cell indicated in the starting cell field. If the starting cell is not specified, the data is written starting from the A1 cell based on the sheet number and user count. If the sheet does not exist, a new sheet is created with the value specified in the sheet name property for the already registered users. All cells within the specified range are overwritten and changes are instantaneously saved. Fig.10. explains the write range process carried in an excel sheet for a particular user

IV. CONCLUSION AND FUTURE ENHANCEMENT

In this process client can be send the invoice details to required organization, mails are attached to the required folder those file are pdf format and the attached into excel sheet ,send the mail notification to required client. Once that bot can be run it can be reduce the manual processing and reduce time consumption.

References

- 1) A. Rofhök-björni, "Electronic Invoicing in Finland - attitudes towards electronic invoicing by financial managers in small- to mid-sized companies," Swedish School of Economics and Business Administration, 2006.
- 2) A. Kaliontzoglou, P. Boutsis, and D. Polemi, "eInvoke: Secure e-Invoicing based on web services," Athens, Greece, 2006.
- 3) A. Matus et al., "On the development of an electronic invoicing solution to integrate SMEs with a taxcollection egovernment-platform," Sangolquí, Ecuador, 2017.
- 4) C. Legner and K. Wende, "Electronic bill Presentment and Payment," St. Gallen, Switzerland, 2006
- 5) D. Spanic, D. Ristic, and B. Vrdoljak, "An electronic invoicing system," Zagreb, Croatia, 2011.
- 6) E. Penttinen, P. Hallikainen, and T. Salomäki, "Impacts of the implementation of electronic invoicing on buyerseller relationships," Helsinki, Finland, 2009.
- 7) J. W. Lian, "Critical factors for cloud based e-invoice service adoption in Taiwan: An empirical study," Int. J. Inf. Manage., vol. 35, no. 1, pp. 98–109, 2015.